

REMARKS

By this amendment, claims 1, 9, 19, 35, 42, 47, 52, and 57 have been amended and claim 62 has been added. Accordingly, claims 1-33 and 35-62 are pending in the present application. The claim amendments are supported by the specification, the accompanying figures, and claims as originally filed, with no new matter being added. Accordingly, favorable reconsideration of the pending claims is respectfully requested.

1. Rejections Under the Judicially Created Doctrine of Double Patenting

Claims 1, 6, 9, 10, 16, 19, 32, 35, 42, 47, 52, and 57 have been rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-3, 5, and 10 of co-pending application serial No. 09/501,025 for the reasons set forth on pages 2-3 of the Office Action.

Claims 1, 4, and 5 have been rejected under the judicially created doctrine of obviousness-type double patenting over claims 1, 2, and 4 of co-pending application serial No. 09/521,898 for the reasons set forth on pages 2-3 of the Office. This rejection appears to be a typographical error.

These rejections will be addressed when the Examiner has indicated allowable subject matter.

2. Rejections Under 35 U.S.C. § 102

Claims 1-5, 7, 9, 12-15, 17, 19-21, 28-31, 33, 35, 38-40, 42-44, 46-49, 51-54, 56-59, and 61 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,424,652 to Hembree et al. (hereinafter “*Hembree*”) for the reasons set forth on page 3 of the Office Action.

Applicants respectfully traverse.

The present independent claims have been amended to recite, *inter alia*, and with some language variations in each individual claim, “a connector for holding the semiconductive device

stationary relative to the interposer by contact engagement with said semiconductive device and with said substrate, wherein said contact engagement is effectuated through direct contact between the connector with the semiconductor device [directly] or through an adhesive in contact with said connector." *See*, for example, claim 1. This recitation is incorporated into the respective dependent claims.

The amendments emphasize that, in the embodiments recited in the amended claims, the contact engagement between the semiconductive device and the substrate connector is maintained by the connector either by direct contact with the semiconductor device or through the adhesive.

Hembree has no such disclosure. Rather, *Hembree* discloses a metal clip 34 in contact with a lid 30, 40 that is attached to a semiconductor die 24. The lid 30, 40 is used for alignment of the die 24 (column 4, lines 28-34; column 5, lines 19-21, 48-51). This is a more complex structure than is recited in the present claims, having additional structural elements and a different arrangement of structural elements than is recited in the presently pending claims.

Additionally, *Hembree* discloses that the die is positioned within a housing 10 on the bottom shelf 12 thereof. *Hembree* also discloses that housing 10 has bond shelves 16 that are elevated above the bottom shelf 12 and yet another shelf wherein the peripheral edges of lid 30, 40 are supported. Thus, die 24 sits within a well within the housing 10.

This is in marked contrast to the limitations of present claims 20, 35, 42, 47, 52, and 57, which recite: "an interposer . . . comprising a . . . substantially planar sheet." As further recited in claims 35, 42, 47, 52, and 57: "said sheet being configured for receiving thereon a semiconductive device such that said semiconductive device lies at least in part on said outermost surface and is unimbedded into said substrate." Because *Hembree* recites that the die is disposed within a well, it does not disclose the above limitations of claims 20, 35, 42, 47, 52, and 57.

Additionally, while the Examiner refers to interposer (“insert”) 14, Applicant respectfully notes that when the Examiner separates insert 14 from housing 10 to define an interposer, *Hembree* (Figure 1) does not satisfy the limitation of claim 1: “a plurality of electrical conductors on the substrate, each electrical conductor having a receiving end for connecting to the semiconductive device at electrically conductive terminals of said semiconductive device, and a terminal end for connecting to an electrical apparatus.” (emphasis added). The remaining independent claims recite variations of this limitation. Rather, the cited embodiment of *Hembree* has wire bonds extending from the insert 14 to connection points 18 on the housing 10. *See* column 4, lines 19-27. It is the housing, not the insert, that has leads which are adapted for connecting to an electrical apparatus. *Id.*

Accordingly, for these reasons, *Hembree* does not anticipate the above rejected claims. Hence, Applicant respectfully requests that the rejection of the claims under 35 U.S.C. § 102(b) over *Hembree* be withdrawn.

3. Rejections Under 35 U.S.C. § 103

Claims 6, 10, 11, 16, 21, 24-27, 32, 36, and 37 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Hembree* in view of U.S. Patent No. 4, 712,161 to Pryor et al. (hereinafter “*Pryor*”), U.S. Patent No. 5,621,333 to Long et al. (hereinafter “*Long*”), and U.S. Patent No. 5,625,298 to Hirano et al. (hereinafter “*Hirano*”) for the reasons set forth on pages 4-5 of the Office Action. Applicants respectfully traverse.

In addition to being not anticipated by *Hembree*, Applicant respectfully asserts that the pending independent claims are also not obvious in view of *Hembree* for reason of the structural differences presented with respect to the section 102(b) rejection. Hence, claims 6, 10, 11, 16, 21, 24-27, 32, 36, and 37, which depend from a respective one of independent claims 1, 9, 19 and 35 and

incorporate the limitations therein, are also not obvious in view of *Hembre* for at least the reasons presented hereinabove with respect to the 102(b) rejection.

Additionally, the Examiner cites *Pryor* in rejecting claims 24, 25, 36, and 37. Applicant incorporates herein by reference its traversal of this rejection in its response to the Office Action dated September 24, 2001.

Regarding claim 11, it is unclear to the Applicant how *Long* teaches or suggests a connector having a “coating thereon composed of an electrically insulating material.” The Examiner is respectfully requested to clarify the basis for this rejection or promptly allow claim 11.

Accordingly, for at least the above reasons, claims 6, 10, 11, 16, 21, 24-27, 32, 36, and 37 are not obvious over the cited references. Applicants therefore respectfully request that the rejection of the claims under 35 U.S.C. § 103(a) be withdrawn.

4. New Claim

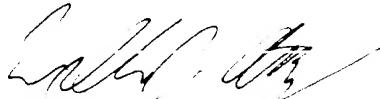
Claim 62 has been added to specifically recite: “said contact engagement is effectuated through direct contact between the connector with the semiconductor device.” This limitation is not taught or suggested by the cited references, and for at least this reason the prompt allowance of this claim is therefore respectfully requested.

CONCLUSION

In view of the foregoing, Applicants respectfully request favorable reconsideration and allowance of the present claims. In the event the Examiner finds any remaining impediment to the prompt allowance of this application that could be clarified by a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney.

Dated this 7/16 day of October 2002.

Respectfully submitted,



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